

Claims

1. A cutting arrangement which is disposed on a distance of travel of a web of corrugated board (1) that is continuously produced by a corrugating machine, the cutting arrangement comprising
- 5 a. a blade shaft (32) which is mounted for drivable rotation about a blade-shaft axis of rotation (31) and which has at least one circular blade (34); and
- 10 b. a brush roll (16; 16a; 16d) which is disposed opposite the blade shaft (32) and mounted for rotation about a brush-roll axis of rotation (15), supporting the web of corrugated board (1), which passes between the blade shaft (32) and the brush roll (16; 16a; 16d), when the web of corrugated board (1) is cut by the at least one circular blade (34);
- 15 c. the brush roll (16; 16a; 16d) possessing shells (37; 37a; 37b; 37c; 37d) which are disposed on a roll core (17; 17a; 17d) and have a cross-sectional shape of a segment of a circle and which have
- i. an outside (39) and an inside (40) that is turned towards the roll core (17; 17a; 17d);
- 20 ii. bristles which stand out from the outside (39);
- iii. torque-transmission means (44, 45, 46; 52, 54; 75) for transmitting torque from the roll core (17; 17a; 17d) to the shells (37; 37a; 37b; 37c; 37d); and
- iv. fastening means (49, 51; 75) for fixing the shells (37; 37a; 37b; 37c; 37d) to the roll core (17; 17a).
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2. A cutting arrangement according to claim 1, **characterized in that** the shells (37; 37a; 37b; 37c; 37d) are half-shells.

3. A cutting arrangement according to claim 1 or 2, **characterized in that** the shells (37; 37a; 37b; 37c; 37d) form a closed brush sleeve (38; 38a) on the roll core (17; 17a).
- 5 4. A cutting arrangement according to one of the preceding claims, **characterized in that** annular ribs (42; 42a; 42d) are provided on the roll core (17; 17a; 17d), which project radially at least along part of the periphery.
- 10 5. A cutting arrangement according to claim 4, **characterized in that** ring grooves (43; 53; 43d) are provided on the inside (40) of the shells (37; 37a; 37b; 37c; 37d), which cooperate with the ribs (42; 42a; 42d) for fixing the shells (37; 37a; 37b; 37c; 37d) axially and/or for fixing the shells (37; 37a; 37b; 37c; 37d) tangentially.
- 15 6. A cutting arrangement according to one of the preceding claims, **characterized in that** holes (44, 46; 69, 72) are provided in the roll core (17; 17d) and on the inside (40) of the shells (37; 37d), respectively accommodating a fastening pin (45; 75) for non-rotary connection of the shell (37; 37d) with the roll core (17; 17d).
- 20 7. A cutting arrangement according to one of the preceding claims, **characterized in that** a first shell (37) comprises a first fastening means and a second shell (37) comprises a second fastening means for connection of the first shell (37) with the second shell (37) on the roll core (17).
- 25 8. A cutting arrangement according to one of the preceding claims, **characterized in that** in the vicinity of the axial or tangential ends of the shells (37c; 37d), the bunches of bristles (61c, 62c, 65) incline towards the re-

spective end, in particular combining with a radius to make an angle of $b > 0^\circ$.

9. A cutting arrangement according to one of the preceding claims, **characterized in that** two adjacent shells (37b) interengage in the way of fingers in the vicinity of their respective tangential ends.

10. A cutting arrangement according to claim 6, **characterized in that** the fastening pin (75) comprises two threaded portions (76, 77) of different pitch.

11. A shell for use in a cutting arrangement according to one of the preceding claims for being fixed to a roll core (17; 17a; 17d), the shell comprising

- a. a basic structure (57; 57a) in the cross-sectional shape of a segment of a circle;
- b. an outside (39) and an inside (40);
- c. bristles which project outwards from the outside (40);
- d. torque-transmission means (44, 45, 46; 52, 54; 75) for transmitting torque from the roll core (17; 17a; 17d) to the basic structure (57; 57a);
- e. fastening means (49, 51; 75) for fixing the basic structure (57; 57a) to the roll core (17; 17a; 17d).